



CARDINAL ACOUSTICS COMPLETE LINE OF WOOD FIBER ACOUSTICAL PANELS FOR

WALLS, CEILINGS & SPECIALTY DESIGNS



CARDINAL
ACOUSTICS®

AN ACOUSTICAL WOOD FIBER COMPANY

INTRODUCING CARDINAL ACOUSTICS

Welcome to Cardinal Acoustics! As Founder and President, I look forward to building a long-lasting relationship with each of you.

Since opening our doors over 5 years ago, Cardinal has become the largest exclusive manufacturer of acoustical wood fiber in the country. I say exclusive because that's all we do. No metal, no fabric, no mineral wool tiles, no fiberglass - just wood fiber. We have the largest selection of acoustical wood fiber products in North America - all made with superior quality and delivered with unparalleled customer service.

I personally have been in the wood fiber industry for over 25 years. Along with my sons William J (Vice President of Operations) and Daniel (Vice President of Sales), we are committed to taking care of all your needs. From design to quote, order, production and delivery, no other manufacturer compares to the total package Cardinal offers.

Every day, our team's mission is to provide a superior product with excellent customer service through our personal attention to all orders. No long waits for answers or quotes. No runarounds. Only ship dates that are on time and correct.

At the heartbeat of this operation is the Cardinal Core Principle - treat all people with respect and trust. We want to build a relationship with you, not just run a transaction.

After all, we are family, so join us and I promise you will not be disappointed.

Sincerely,



Bill Khourie



WHY CHOOSE CARDINAL ACOUSTICS?



SUPERIOR QUALITY

Absorbs up to 95% of sound and abuse resistant with a lifetime warranty.



UNPARALLELED CUSTOMER SERVICE

Guaranteed response in 24hrs throughout the project.



CONVENIENT SOLUTIONS

Produced in as fast as 2-4 weeks keeping your installation schedule on track.



INFINITE CUSTOM DESIGNS

Limitless decorative yet functional specialty options at below market price.

PANEL PROPERTIES

RAW MATERIALS

Only quality materials are used in Cardinal Acoustics cementitious wood fiber fiber panels. We start with wood fibers from poplar trees in New Zealand and join them together with a magnesium oxide cement-like binder. For details on the complete process, call us and we'll provide MSD sheets.

Our panels are asbestos and fungus free, and not harmful to the environment. They can be painted up to 3 times without losing any of their absorption ability, are very easy to install and can be shipped anywhere in the United States within 2 to 4 weeks.

FINISHES & COLORS

Factory finishes include Painted White, Painted Natural, and Raw Unpainted (to be field painted). We also offer Factory Custom Painted panels which add a whole new element to the product. While panels can be field painted, Factory Custom Painted is strongly recommended. Our automatic finishing line provides consistent, uniformity to the panel face that cannot be matched by field painting. Automation removes the human component that may sometimes leave a less than desirable finish.

ACOUSTICS

All Cardinal Acoustics products start with a base cementitious wood fiber panel, with an NRC rating of 0.45—0.95 depending on the mounting method. Contact us for a free reverberation report to calculate the NRC needed for a specific space.

These panels, in addition to their acoustic qualities, resist abuse, and are easily installed in new construction or existing buildings. All our panels have a Class A flame and smoke spread rating.

LIGHT REFLECTANCE

Panel reflectance allows the use of indirect lighting which is highly preferred for professional and educational environments, especially those using computer screens. Our Painted White panels have a 0.89 LR in accordance with ASTM E1477.

WARRANTY

Our panels have a limited lifetime warranty on material breakage provided they are installed in accordance with standard CISCA guidelines and approved by Cardinal Acoustics. For full warranty information, contact us.



SUSTAINABILITY

CHARACTERISTICS

- Biodegradable with zero impact to landfills
- Made from renewable wood resources
- LBC Red List Free

Cardinal Acoustics is committed to manufacturing our panels with sustainable and renewable raw materials in a safe, non-toxic environment.

We provide an eco-friendly, quality sound-absorption product. Our wood fiber acoustical panels pass world class sound-absorption tests and meet the highest industry standard. And they are sourced with concern for the environment.

Cardinal Acoustics panels consist of wood fibers from Populus Alba (Poplar Tree), Magnesium Oxide, Magnesium Sulphate, Silicon Dioxide, and water. Poplar Trees are rapid growing but short lived trees, reaching maturity in 20-25 years and typically die within 50 years. It is considered good practice to harvest the trees after maturity due to its “invasive” status.

Magnesium Oxide is mixed with Magnesium Sulphate to form the inorganic cement binder. Magnesium is an inorganic solid mineral that occurs naturally. Bonded with either an oxide (oxygen) and/or sulphate (salt). Silicon Dioxide is also a natural occurring compound and is from two of the earths most abundant materials; silicon and oxygen.

Since our inception, we have taken careful steps to ensure that we are offering a product that is not only environmentally friendly but is transparent. We have worked with some of the highest accredited laboratories and institutions in the US to obtain specific certifications and declarations that display our commitment to protecting the environment.



SUSTAINABILITY

CERTIFICATIONS AND DECLARATIONS



EPD CERTIFIED - Cardinal products create zero negative impact to human health and the environment



HPD CERTIFIED - Cardinal products produce healthy environments and facilities



DECLARE - Declare is a nutrition label for building products. It is designed to help specifiers quickly identify products that meet their project requirements.



USDA BIOPREFERRED - Cardinal products are made from biobased materials to sustain the environment.



FSC CERTIFIED - Cardinal can source from responsibly managed forests that provide environmental, social, and economic benefits

LEED CONTRIBUTION



BUILDING DESIGN AND CONSTRUCTION (BD+C)

Material and Resources (MR)

- Construction and Demolition Waste Management Planning
- Recycled content
- Rapidly Renewable Resources
- Building Product Disclosure and Optimization-Material Ingredients
- Building Life Cycle impact Reduction

Indoor Environmental Quality (EQ)

- Acoustical Performance
- Construction IAQ Plans
- Low-Emitting Materials, Composite Wood and Agri Fiber Products
- Low-emitting Materials, Adhesives and Sealants
- Low Impact Cleaning and Maintenance Equipment Policy



Cardinal Acoustics wood fiber wall & ceiling panels offer an attractive, textured look combined with durability and sound absorption. Made of abuse-resistant wood fiber, these panels are perfect for use in educational buildings, recreational facilities, churches, casual dining areas, and more.

- FEATURES**
- 0.45 – 0.95 NRC range
 - Class A Fire Rating
 - Limited lifetime warranty against breakage
 - Economical with a long life-span
 - Can be field painted up to three times
 - Customizable options

CARDINAL ACOUSTICS DIRECT ATTACHED PANEL TECHNICAL DATA

EDGE DETAIL	MOUNT	NRC	THICKNESS	WIDTH	LENGTH	WEIGHT P/SF
Bevel/Bevel, Bevel/Square, Square/Square	A	0.45	5/8"	23-3/4" or 48"	48" up to 96"	1.55
		0.60	1"			2.20
		0.70	1 1/2"			3.42

Cardinal Acoustics wall and ceiling panels come in standard widths of 2' or 4', and standard lengths of 4' to 8'. They can be cut and shaped easily with standard woodworking tools. All Cardinal Acoustics ceiling panels meet the requirements of ASTM E1264 Type XIV pattern L Class A.



ACOUSTICAL WALL & CEILING PANELS

CARDINAL COMPLETE PANEL

When your space requires the highest possible noise absorption, Cardinal Complete wood fiber panels are the solution. These panels achieve an NRC of .85 - .95 and are ideal for areas like gymnasiums, classrooms, multi-purpose rooms, restaurants, and spaces constructed with hard reflective surfaces.

Cardinal Complete panels are composed of either a 5/8" or 1" baseboard with 1" or 2" of wood fiber furring strips attached along the perimeter of the panel backside. We then secure either 1" or 2" of insulation to the framed-out cavity on the panel backside. Cardinal Complete panels are prefabricated to provide ease of installation. In lieu of the C-20 or C-40 mounting method, these methods achieve the same (or higher) absorption coefficient and only require the direct attached A mount.

CARDINAL COMPLETE PANEL TECHNICAL DATA

EDGE DETAIL	MOUNT	NRC	THICKNESS	WIDTH	LENGTH	WEIGHT P/SF
Bevel/Bevel, Bevel/Square, Square/Square	A	0.85	5/8"	23 ¾" or 48"	48" up to 96"	2.37
		0.90	1"			2.52
		0.95	1"			3

*Thickness is for baseboard only. Add 1" for total thickness to achieve 0.85 or 0.90 NRC. Add 2" for total thickness to achieve 0.95 NRC.

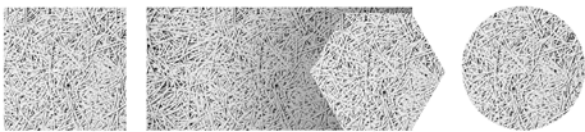


ACOUSTICAL WALL & CEILING PANELS

CARDINAL CREATIVE SHAPE PANEL

Seeking a unique look? Cardinal Creative Shapes are available in a wide variety of shapes and sizes, including circles, hexagons, triangles, parallelograms, trapezoids, and squares. Create artistic patterns and designs and obtain acoustical absorption at the same time.

Below are our standard Cardinal Creative Shape sizes. Don't see what you're looking for? Contact us as customizable shapes are infinite!

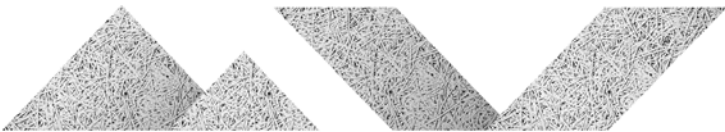


Square
Width: 8"
Length: 8"

Rectangle
Width: 8"
Length: 16"

Hexagon
Width: 7.5"
Length: 8-11/16"

Circle
8" Diameter



16" Triangle
Width: 16"
Length: 16"

8" Triangle
Width: 8"
Length: 8"

Right Parallelogram
Width: 8"
Length: 16"

Left Parallelogram
Width: 8"
Length: 16"

CARDINAL CREATIVE SHAPE PANEL TECHNICAL DATA

EDGE DETAIL	MOUNT	NRC	THICKNESS	WIDTH	LENGTH	WEIGHT P/SF
Beveled or square	A	0.45	5/8"	Variable	Variable	1.55
		0.60	1"			2.20
		0.70	1 ½"			3.42



LAY-IN CEILING PANELS

Lay-In Ceiling Panels provide both the durability and noise reduction qualities that your standard mineral-fiber acoustical ceiling tile simply cannot. The Lay-In Panels are an easy-to-install, easy-to-maintain ceiling application that sit cleanly into a 15/16th Intermediate Duty Grid.

CARDINAL LAY-IN CEILING PANEL TECHNICAL DATA

EDGE DETAIL	MOUNT	NRC	THICKNESS	WIDTH	LENGTH	WEIGHT P/SF
Square	E-400	0.60	5/8"	23 3/4"	23 3/4" or - 47 3/4"	1.55
		0.70	1"			2.20
		0.75	1 1/2"			3.42

REVEALED EDGE LAY-IN CEILING PANELS

Cardinal Acoustics Revealed Edge Lay-In Ceiling Panels are available in two form options. The first is a Lay-In Panel where the face is rabbeted to provide a 13/32" reveal below the grid in 1" thick panels. The second is a 3/4" reveal below the grid in 1 1/2" thick panels. The revealed/tegular edge provides a three-dimensional look. The exposed edge is both painted to match the panel face and typically beveled to provide a soft look.

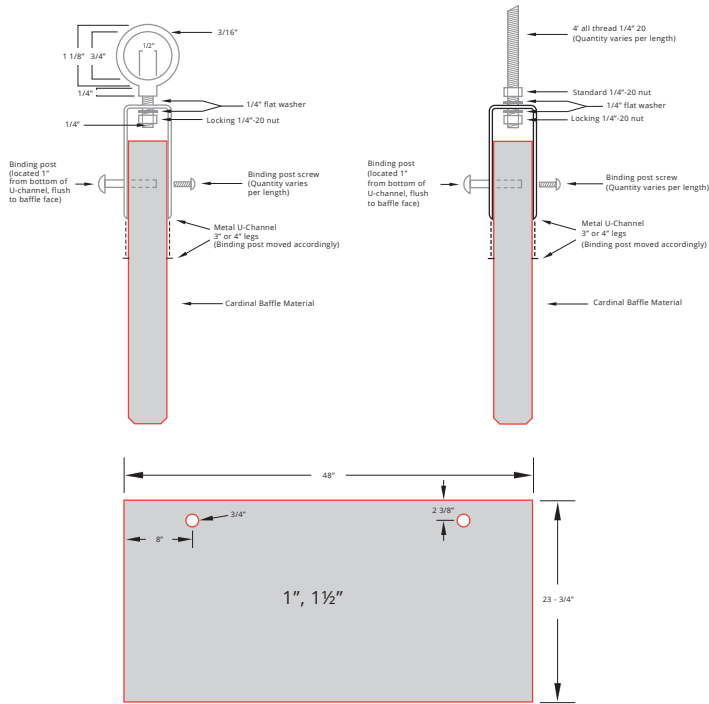
CARDINAL REVEALED EDGE CEILING SPECIFICATION DETAILS:

EDGE DETAIL	MOUNT	NRC	THICKNESS	WIDTH	LENGTH	WEIGHT P/SF
Revealed / Tegular	E-400	0.70	1"	23 3/4"	23 3/4" or 47 3/4"	2.20
		0.75	1 1/2"			3.42



ACOUSTICAL SPECIALTY CEILINGS CARDINAL BAFFLES

Cardinal Acoustics wood fiber baffles suspend vertically from the ceiling. Unlike all other products, the baffle is exposed both on the front and backside. If the Cardinal baffle is 4' or less in length, it is simply fabricated with two nylon inserts that allow the baffle to be suspended with either hanging wire or aircraft cable. Once the baffle extends beyond 4' in length, it needs to be secured with a galvanized metal U channel. The U channel can then be suspended one of two ways. See the below suspension details. All suspension hardware (except for hanging wire) is provided by Cardinal Acoustics.



CARDINAL BAFFLE TECHNICAL DATA

EDGE DETAIL	SABINS/SF	THICKNESS	WIDTH	LENGTH	WEIGHT P/SF
Bevel/Bevel, Bevel/Square, Square/Square	0.70	1"	11 3/4" or 23 3/4"	48" up to 96"	2.20
	0.75	1 1/2"			3.42

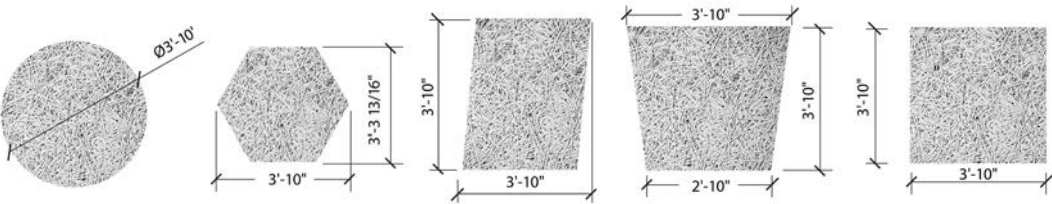


ACOUSTICAL SPECIALTY CEILINGS

CARDINAL CREATIVE CLOUDS

Cardinal Clouds are an attractive way to reduce noise. These 1 ½” thick wood fiber panels are free-floating and suspend from the ceiling. The Cloud panel is fabricated with T profiles 5” in from the end of the panel. The installer simply slides an Intermediate Main Tee into the profile and then utilizes either hanging wire or aircraft cable to suspend the Cloud.

Creative Clouds are recommended in any kind of shape to add an aesthetic appeal to your space!



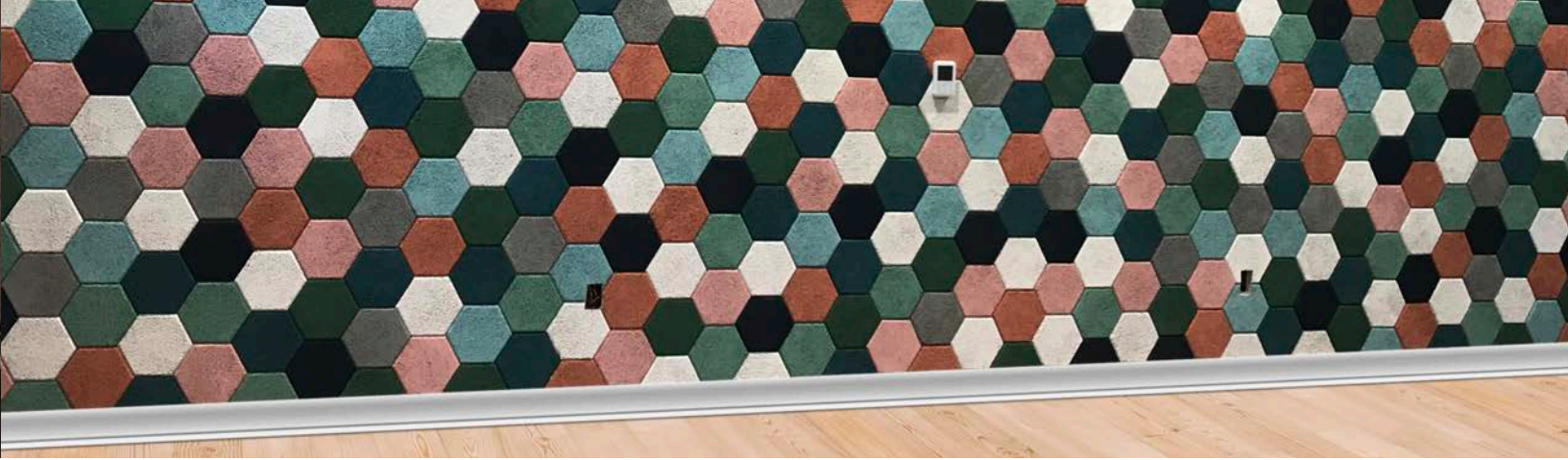
In addition to the shape option, below is the technical data for standard Cloud panels:

CARDINAL CLOUD TECHNICAL DATA

EDGE DETAIL	NRC	THICKNESS	WIDTH	LENGTH	WEIGHT P/SF
Bevel/Bevel, Bevel/Square, Square/Square	0.75	1 ½”	23 ¾” or 48”	48” up to 96”	3.42

ACOUSTICAL SPECIALTY WALLS & CEILINGS



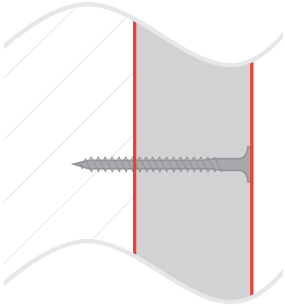


MOUNTING DETAILS

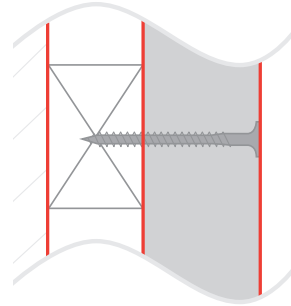
MOUNTINGS FOR CARDINAL ACOUSTICS WALL PANELS

Below are the four most common mounting methods for Cardinal panels. It is helpful to note that the panel thickness plus mounting method equals the desired NRC value. The table depicts the NRC values for each thickness and it's corresponding mounting method. Contact Cardinal for further information on mounting methods.

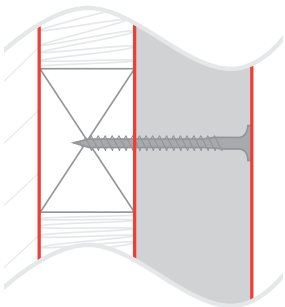
MOUNTING A



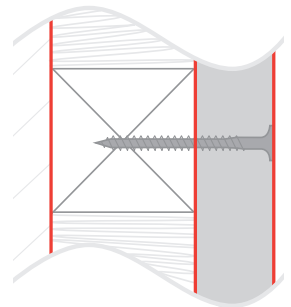
MOUNTING D-20



MOUNTING C-20



MOUNTING C-40

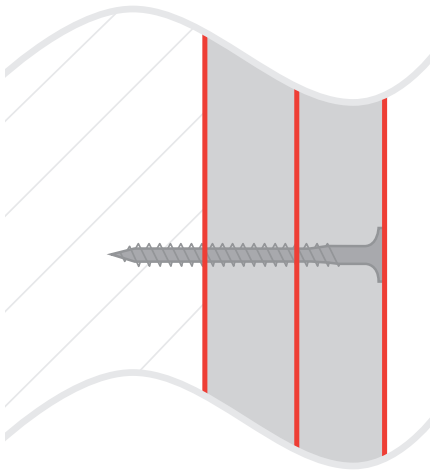


MOUNTING METHOD	THICKNESS	NRC
A	5/8"	0.45
A	1"	0.60
A	1 1/2"	0.70
D-20	5/8"	0.55
D-20	1"	0.70
C-20	5/8"	0.80
C-20	1"	0.90
C-40	5/8"	0.80
C-40	1"	0.95

MOUNTING DETAILS

MOUNTINGS FOR CARDINAL ACOUSTICS CEILING PANELS

Cardinal Direct-Attached panels can be mechanically attached to a variety of ceiling substrates which include the underside of the roof deck; the joists and other support members; drywall suspension systems; metal and wood furring structures; and other commonly used support systems. Panels should be placed in a brick pattern. Wall panels should be fasteneer with at least 5/8" penetration to the stud, and ceiling panels require at least 3/4" penetration. If attaching to concrete and utilizing Tapcon fasteners, a minimum of 1" penetration is recommended.



MOUNTINGS FOR CARDINAL COMPLETE

The Cardinal Complete panel is composed of a 5/8" or 1" baseboard with 1" or 2" of furring along the perimeter of the backside. The backside cavity is filled with a sound absorbing material. This panel is prefabricated at the plant for a simple one step installation. No additional furring or fiberglass is needed, and the panel is direct-attached right to the wall or ceiling.



For more information, visit cardinalacoustics.com
or call us at 614.721.3001

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CARDINAL
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AN ACOUSTICAL WOOD FIBER COMPANY

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